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Indian Standard
**SPECIFICATION FOR
FLAVOURED MILK**
(Third Reprint OCTOBER 1997)

UDC 637.133.3/.4

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Indian Standard

SPECIFICATION FOR FLAVOURED MILK

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Indian Standard

SPECIFICATION FOR FLAVOURED MILK

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 31 July 1968, after the draft finalized by the Dairy Products and Laboratory Apparatus Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Conversion of milk into flavoured milk is a recognized form of its marketing. The product is similar to bottled pasteurized milk except that it is flavoured and sweetened to taste. It has consumer acceptability and sale appeal. Overall nutritive value of the milk used is retained and enhanced by the addition of sugar. Manufacture of the product fits in with the routine milk handling and processing procedures in the dairy. The organized dairies in the country have, therefore, started the production of flavoured milk. This standard is being issued to help these dairies in controlling the quality and also for guiding other dairies in taking up the production of flavoured milk.

0.3 For preparing flavoured milk, raw milk (*see 2.1.1*) is tested for quality and clarified or filtered to eliminate particles of dirt, dust, etc, and standardized. To the milk, required ingredients (*see 3*) and flavour (*see 2.2*) are added and the mix may then be homogenized at a suitable pressure and temperature. The mix is then pasteurized at a suitable temperature and time, cooled and filled in glass milk bottles and capped. Sterilized milk is filled in glass milk bottles with crown-cork or in sterilized cans and sealed air-tight. The containers are placed in a sterilizer where they are heated to a suitable temperature and then cooled.

0.4 While formulating this standard, necessary consideration has been given to the relevant rules prescribed by the Government of India under the Prevention of Food Adulteration Act, 1954. This standard is subject to the restrictions imposed under the Act, wherever applicable.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in

*Rules for rounding off numerical values (*revised*).

the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the types, the requirements and the methods of sampling and test for flavoured milk.

2. TYPES

2.1 Flavoured milk shall be of the following types:

- a) Pasteurized, and
- b) Sterilized.

2.1.1 Flavoured milk, pasteurized or sterilized, may be prepared from any of the types of milk given below:

- a) Cow,
- b) Buffalo,
- c) Standardized,
- d) Skimmed,
- e) Toned, and
- f) Double toned.

2.1.1.1 The types of milk mentioned in **2.1.1** shall be as defined in the Prevention of Food Adulteration Rules, 1955.

2.2 The product shall also be classified according to the flavour added as chocolate milk, coffee milk, fruit flavour milk, etc.

3. INGREDIENTS

3.1 Any of the types of milk given in **2.1.1** may be used in the product.

3.1.1 Milk and milk products shall be of good hygienic quality. Condensed milk shall conform to IS : 1166-1957*. Milk powder shall conform to IS : 1165-1967†.

3.1.2 Milk and fluid milk products shall be handled in clean and sterilized containers, stored at temperature not exceeding 10°C, till required for use.

3.2 The chocolate/cocoa/coffee shall be of good quality and stored in a clean and cool place.

*Specification for condensed milk. (Since revised).

†Specification for milk powder (whole and skim) (first revision). (Since revised).

3.2.1 Chocolate/cocoa/coffee should be mixed with sugar and stirred into milk thoroughly before homogenization and pasteurization/sterilization. Sediment, if any, should be strained before processing by using suitable strainers.

3.3 Permitted fruit juices shall be used. They shall be prepared from properly mature fruits free from piths, seeds, skin and core. They shall be pasteurized at 63°C for 30 minutes for destroying pathogens. Fruit juices shall be used immediately after preparation; if required to be stored, they should be stored in clean containers at a temperature not exceeding 10°C.

3.3.1 Canned or concentrated fruit juices shall comply with the requirements given in the Fruit Products Order, 1955.

3.4 Sugar may be added according to the requirements of the consumer.

3.5 Colouring matter and flavouring essences shall be selected from those permitted by the Prevention of Food Adulteration Rules, 1955.

3.5.1 Flavoured extracts and various artificial or imitation flavours shall be pasteurized at 63°C for 30 minutes before use.

3.5.2 Colour solutions shall be added to the milk after pasteurization. Aqueous solution of colours shall be pasteurized by heating at 63°C for 30 minutes prior to use. It is preferable to use dry colours and prepare their solutions in the plant as and when required. The dry colours may be dissolved in hot water (80°C) or 45 percent cane-sugar solution and boiled for 2 minutes. They shall be stored at a temperature below 5°C in sterile glass jars provided with screw-caps. Old solutions shall be pasteurized by heating at 63°C for 30 minutes.

3.5.3 Stabilizers permitted under the Prevention of Food Adulteration Rules, 1955 not exceeding 0.2 percent by weight of milk may be used. They shall be clean and free from any bad taste or smell and shall be protected from dust and contamination during storage. The stabilizer is added to the milk before pasteurization. Gelatin, whenever used, shall be soaked in cold water for 15 to 20 minutes and then heated to about 70°C for 10 minutes before adding to the milk.

NOTE — Chocolate/coffee milk and milk flavoured with fruit juices need the addition of stabilizer.

4. REQUIREMENTS

4.1 Hygienic Requirements — The product shall be processed, packed, stored and distributed under strictly hygienic conditions (see IS : 2491-1963*). Contamination should be avoided.

*Code for sanitary conditions for food processing units. (Since revised).

4.2 Pasteurized Flavoured Milk—The mix (milk, sugar, stabilizer, etc) shall be pasteurized at a suitable temperature and for a period which ensures the destruction of all pathogenic organisms. After pasteurization of the milk, no ingredient other than fruit juice, essence and colour should be added. The mix shall be cooled to 5°C immediately after heat treatment.

4.3 Sterilized Flavoured Milk—The mix (milk, stabilizer, sugar, flavour, colour, etc) shall be sterilized at a suitable temperature and for a period which ensures the destruction of all pathogenic organisms and cooled to room temperature.

4.4 Flavour—The product shall conform to the designated flavour (2.2). It shall have no off-flavours. No visible sediment of the added natural flavouring materials is desirable.

4.5 Keeping Quality—Variation of the *pH* on 7 days incubation of the sterilized milk shall not exceed more than 0.3 when tested by the method given in Appendix C of IS : 4238-1967*.

4.6 The flavoured milk shall also conform to the requirements given in Table 1.

TABLE 1 REQUIREMENTS FOR FLAVOURED MILK

SL No.	CHARACTERISTIC	REQUIREMENT		METHOD OF TEST (REF TO IS)
		Sterilized	Pasteurized	
(1)	(2)	(3)	(4)	(5)
i)	Creaming index, <i>Max</i>	20	20	Appendix A of IS : 4238-1967*
ii)	Bacterial spores per ml, <i>Max</i>	5	—	Appendix E of IS : 4238-1967*
iii)	Total colony count, per ml, <i>Max</i>	—	50 000	5 of IS : 1479 (Part III)-1962†
vi)	Coliform count, per ml, <i>Max</i>	—	10	8 of IS : 1479 (Part III)-1962†
v)	Phosphatase test	—	Negative	26 of IS : 1479 (Part II)-1961‡

*Specification for sterilized milk.

†Method of test for dairy industry: Part III Bacteriological analysis of milk.

‡Method of test for dairy industry: Part II Chemical analysis of milk.

*Specification for sterilized milk.

5. PACKING AND MARKING

5.1 Packing

5.1.1 Pasteurized Flavoured Milk — The pasteurized flavoured milk shall be filled in glass milk bottles or any other suitable container and capped.

5.1.2 Sterilized Flavoured Milk — The sterilized flavoured milk shall be filled in glass bottles or sanitary cans properly sterilized. The containers shall be capped or sealed air-tight and placed in a sterilizer where they shall be gradually heated to a suitable temperature and cooled to room temperature.

5.2 Marking — The following information shall be marked legibly on each container:

- a) Name of the material;
- b) Type of the product:
 - 1) Pasteurized/sterilized milk;
 - 2) Cow/buffalo/standardized/skimmed/toned/double toned milk;
 - 3) Flavoured—chocolate milk/coffee milk/fruit milk, etc;
- c) Name and address of the manufacturer;
- d) Batch or code number; and
- e) Net content.

5.2.1 Each container may also be marked with the Standard Mark.

5.2.2 The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

6. SAMPLING

6.1 Representative samples of flavoured milk for testing conformity to this standard shall be drawn as described in Appendix F of IS : 4238-1967*.

*Specification for sterilized milk.

7. TESTS

7.1 Tests shall be carried out as prescribed in appropriate appendices of Indian Standards given in col 5 of Table 1.

7.2 Quality of Reagents — Unless specified otherwise, pure chemicals shall be employed in tests and distilled water (*see* IS : 1070-1960*) shall be used where the use of water as a reagent is intended.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the test results.

*Specification for water, distilled quality (*revised*). (Since revised).

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